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EXAMINER
PHAN, HANH

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2613	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 August 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This Office Action is responsive to the Amendment filed on 08/21/2007.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Prior Art Figures 1-3 in view of Stewart et al (US Patent No. 7,155,133) and further in

view of Hoffe et al (US Patent No. 6,313,459).

Regarding claims 1, 4, 11 and 14, the Prior Art Figures 1-3 teaches an optical

receiver module (i.e., an optical receiver module, Prior Art Fig. 1) with adjustment

comprising:

an optical-electrical converter circuit (i.e., optical electrical conversion 11, Prior

Art Fig. 1);

a bias voltage adjusting circuit (i.e., DC/DC voltage boost circuit 12, Prior Art Fig.

1) that comprises a DC/DC voltage boost circuit;

a voltage output circuit of optical power detection (i.e., voltage output circuit of

optical power detection 14, Prior Art Fig. 1) detecting and sending an analog voltage of

an optical power.

The Prior Art Figures 1-3 differs from claims 1, 4, 11 and 14 in that it fails to teach a digital adjusting unit digitally adjusting the DC/DC voltage boost circuit to output different voltage, an A/D converter converting both an analog voltage of a measured working temperature of an optical detector into a digital data and the analog voltage of the optical power into a digital data, which are used for controlling the digital adjustment circuit, monitoring a bias voltage of the optical detector, making temperature compensation and dark current compensation at different temperature, a memory storing parameters of the optical receiver module as a basis for adjustment and the optical receiver module is standardized before applied. Stewart et al, from the same field of endeavor, likewise teaches an optical receiver with digital adjustment (Figure 4). Stewart et al further teaches a digital adjusting unit (i.e., controller IC 110, Fig. 4) digitally adjusting the DC/DC voltage boost circuit to output different voltage, an A/D converter (i.e., A-D input and D-A output, Fig. 4) converting both an analog voltage of a measured working temperature of an optical detector into a digital data and an analog voltage of a measured optical power into a digital data, which are used for controlling the digital adjustment circuit, monitoring a bias voltage of the optical detector, making temperature compensation and dark current compensation at different temperature and a memory EEPROM 120 and a temperature look up table 122 (Fig. 3) and storing parameters of the optical receiver module as a basis for adjustment (i.e., Figs. 3-10, col. 6, lines 41-67, col. 7, lines 1-67, col. 8, lines 1-67, col. 9, lines 1-32 and col. 10, lines 1-32). Hoffe et al, from the same field of endeavor, likewise teaches an optical receiver with digital adjustment (Figure 2). Hoffe et al further teaches the optical receiver module

is standardized before applied (i.e., Fig. 2, col. 3, lines 16-36, col. 4, lines 12-28, col. 5, lines 62-67 and col. 8, lines 9-12). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate digital adjusting unit digitally adjusting the DC/DC voltage boost circuit to output different voltage, the A/D converter converting both an analog voltage of a measured working temperature of an optical detector into a digital data and the analog voltage of the optical power into a digital data, which are used for controlling the digital adjustment circuit, monitoring a bias voltage of the optical detector, making temperature compensation and dark current compensation at different temperature, the memory storing parameters of the optical receiver module as a basis for adjustment and the optical receiver module is standardized before applied as taught by Stewart et al and Hoffe et al in the system of the Prior Art Figures 1-3. One of ordinary skill in the art would have been motivated to do this since allowing maximizing the sensitivity of an optical receiver.

Regarding claims 2 and 3, the combination of the Prior Art Figures 1-3, Stewart et al and Hoffe et al teaches the digital adjusting unit (i.e., controller 110, Fig. 4 of Stewart et al) is a D/A converter or a digital potentiometer (i.e., Figs. 4-10 of Stewart et al, col. 6, lines 41-67, col. 7, lines 1-67, col. 8, lines 1-67, col. 9, lines 1-32 and col. 10, lines 1-32 and Fig. 2 of Hoffe et al).

Regarding claims 5, 13, 16 and 17, the combination of the Prior Art Figures 1-3, Stewart et al and Hoffe et al teaches storing DA values during dark current zero-adjustment comprises: setting a DA value; converting an analog output Optical Power

Measurement (OPM) of an operation amplifier for optical power detection into a digital

data by the A/D converter, and then sending to the CPU; the CPU detecting whether

the digital data satisfies dark current zero-adjustment requirement; if it is, storing the set

DA value in the memory, otherwise returning to setting a DA value (i.e., Prior Art Figs.

1-3, Figs. 4-10 of Stewart et al, col. 6, lines 41-67, col. 7, lines 1-67, col. 8, lines 1-67,

col. 9, lines 1-32 and col. 10, lines 1-32 and Fig. 2 of Hoffe et al).

Regarding claim 6, the combination of the Prior Art Figures 1-3, Stewart et al and

Hoffe et al teaches storing DA values during optical detector bias voltage adjustment

comprises: setting a DA value; converting an optical detector bias voltage by the A/D

converter into a digital data, and then sending to the CPU; the CPU detecting whether

the digital data satisfies the optical detector bias voltage requirement; if it is, storing the

set DA value in the memory, otherwise, returning to setting a DA value (i.e., Prior Art

Figs. 1-3, Figs. 4-10 of Stewart et al, col. 6, lines 41-67, col. 7, lines 1-67, col. 8, lines 1-

67, col. 9, lines 1-32 and col. 10, lines 1-32 and Fig. 2 of Hoffe et al).

Regarding claims 7, 12 and 15, the combination of the Prior Art Figures 1-3,

Stewart et al and Hoffe et al teaches storing AD values during standardizing optical

power detection comprises: inputting a standard light source; determining a

corresponding AD values with 0.5 dBm optical power space within optical power

detection scope, and storing the determined AD values in the memory (i.e., Prior Art

Figs. 1-3, Figs. 4-10 of Stewart et al, col. 6, lines 41-67, col. 7, lines 1-67, col. 8, lines 1-

67, col. 9, lines 1-32 and col. 10, lines 1-32 and Fig. 2 of Hoffe et al).

Regarding claim 8, the combination of the Prior Art Figures 1-3, Stewart et al and Hoffe et al teaches storing AD values during standardizing temperature measurement comprises: calculating corresponding relationship between a temperature and the AD value; determining a corresponding AD values with 5°C space within a certain temperature scope, storing the determined AD values in the memory (i.e., Prior Art Figs. 1-3, Figs. 4-10 of Stewart et al, col. 6, lines 41-67, col. 7, lines 1-67, col. 8, lines 1-67, col. 9, lines 1-32 and col. 10, lines 1-32 and Fig. 2 of Hoffe et al).

Regarding claim 9, the combination of the Prior Art Figures 1-3, Stewart et al and Hoffe et al teaches in the memory storing parameters of the optical receiver module including type of the optical receiver module, production date, receiving sensitivity, overload point and maximum bias voltage of the optical detector during test (i.e., Prior Art Figs. 1-3, Figs. 4-10 of Stewart et al, col. 6, lines 41-67, col. 7, lines 1-67, col. 8, lines 1-67, col. 9, lines 1-32 and col. 10, lines 1-32 and Fig. 2 of Hoffe et al).

Regarding claim 10, the combination of the Prior Art Figures 1-3, Stewart et al and Hoffe et al teaches reading out a digital data of bias voltage of the optical detector converted by an A/D converter through the CPU, and then real-timely displaying (i.e., Prior Art Figs. 1-3, Figs. 4-10 of Stewart et al, col. 6, lines 41-67, col. 7, lines 1-67, col. 8, lines 1-67, col. 9, lines 1-32 and col. 10, lines 1-32 and Fig. 2 of Hoffe et al).

Response to Arguments

4.   Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for

the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703)305-

4700.

HANH PHAN
PRIMARY EXAMINER